DOCUMENT RESUME

ED 350 783 EC 301 594

TITLE Update on Developmental Speech and Language Disorders.
INSTITUTION National Inst. on Deafness and Other Communications Disorders, Bethesda, MD.
PUB DATE Dec 91
NOTE 6p.
PUB TYPE Information Analyses (070) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Clinical Diagnosis; Elementary Secondary Education; Etiology; Intervention; Language Acquisition; *Language Handicaps; Neurological Organization; Research Projects; *Speech Handicaps; *Symptoms (Individual Disorders)

ABSTRACT

This leaflet offers an update of research and recent advances in understanding developmental speech and language disorders. It provides an overview of the incidence of language impairments and speech disorders, causes, features, diagnostic techniques, brain functioning, and research priorities. Relevant activities of the National Institute on Deafness and Other Communication Disorders are also described, and five organizations are listed for additional information. (JDD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED350783

Update
on Developmental Speech and Language Disorders

The National Institute on Deafness and Other Communication Disorders (NIDCD) has primary responsibility at the National Institutes of Health (NIH) for supporting research on developmental speech and language disorders. The NIDCD, which became one of the institutes of the NIH in October 1988, supports research and research training on normal and disordered processes of hearing, balance, smell, taste, voice, speech, and language. This insert provides an update of current research and recent advances in understanding developmental speech and language disorders.

EC 301594

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

Language Impairments

Overview. It is estimated that between six and eight million people in the United States have some form of language impairment. A person with a language impairment or disorder has difficulty communicating with others because the ability to understand or produce language is impaired. Understanding spoken words and sentences may be difficult, and the disorder may lead to problems with speaking, reading and writing. Scientists study development of language to understand the nature of the disorders affecting language development and to design teaching or therapeutic strategies to improve the communication process for persons with developmental language disorders.

There are different causes of language disorders in children. Some language disorders are a result of hearing loss, autism, mental retardation, emotional disorders, or neural impairment. However, for a larger number of children, the cause of the disorder is unknown. Scientists use the term specific language impairment (SLI) to describe language disorders of unknown cause. SLI is the type of disorder discussed in this pamphlet update.

Early studies of SLI children found that only a small percentage of these children showed evidence of a neural impairment. However, studies since then have shown that children with SLI may have temporal processing difficulties, in that some perform especially poorly when asked to identify specific sounds when hearing a series of rapid sound changes. Children with SLI also may have problems in coordinating incoming sensations (e.g., sight, sound, touch) with motor activity.

Early studies of children with SLI centered on the features of syntax (sentence structure), morphology (word formation and pronunciation), phonology (the sounds of words), and semantic relations or the meaning of words in a sentence in relation to their location in the sentence. Scientists found that children with SLI had problems in all of these areas. The studies revealed that these children not only develop language more slowly than other children with normal language, but also differently than younger children who are developing language normally. Certain features (e.g., word formation) caused more serious difficulty. Long-term studies of children with language-related learning problems showed that these language problems may continue into adulthood. Young children with language-related learning problems are clearly at risk for later problems in reading.

Recent Advances. Diagnostic techniques, such as magnetic resonance imaging (MRI), are being used to determine if neurogenic disorders might be found in language-impaired children. MRI produces detailed images of the body's inner structures without the use of x-rays.

Genetic studies of SLI children have also been undertaken. The findings from these studies suggest that SLI children are more likely than are normal children to have other family members with language problems. An NIDCD-supported scientist is conducting a genetic study at the University of Iowa to determine factors that contribute to this familial aspect of specific language impairment.

Scientists at the Salk Institute, La Jolla, California, are examining the neurobehavioral development (the brain's impact on behavioral development) in normal children and in language-impaired and reading-disabled (LI/RD) children. They are comparing brain functions during tasks involving sensing, thinking, and language reception and production in normal children and LI/RD children at different ages and different stages of language and thought development. This research will provide an understanding of the best type and timing of intervention for language-impaired individuals.

New studies include comparisons of treatment for children with SLI. Current research includes studies on the lexical (vocabulary) and pragmatic (communicative-conversational) abilities of SLI children. Scientists at The Pennsylvania State University are exploring ways to combine imitation training, in which the child imitates the clinician's or teacher's speech, and conversation-based treatment which involves the child in conversation. At an NIDCD-sponsored research study at the University of Washington investigators are looking at the language acquisition process in preschool SLI children to determine whether there are optimum times to begin treatment.

Some of the research priorities of the NIDCD include the integration of speech perception (children's recognition, organization, and interpretation of speech) and speech motor abilities and the relationship of these processes to language acquisition. NIDCD-supported researchers at Purdue University, for example, are examining differences in the processes of speech perception and speech production in normal and SLI children. They are using tests of speech production to determine whether a primary speech motor deficit or a speech motor learning impairment is the cause of language problems in children. These tests will help the scientists determine what extent speech production abilities (i.e., speech motor skills) may be related to how children interpret and produce sentences. Another study by scientists at Indiana University is examining the relationships between speech perception and the more abstract linguistic (language) and cognitive (thinking) processes involved in the understanding of spoken language.

Children with SLI often exhibit difficulties with the way words are used, such as use of past tense and function words, which include articles (i.e., a, an, the) and auxiliary verbs (i.e., be, have, do). A research project is underway at Purdue University to explore the possible bases of these grammatical word limitations and to examine how such limitations may hinder other aspects of these children's language development.

Speech Disorders

Overview. Speech development is a gradual process that requires years of practice. Children spend several years "playing with speech sounds" and imitating the sounds they hear. Most children have mastered all of the speech sounds by six years of age; however, they will continue to refine their speech production for several more years.

A large research program is being conducted by investigators at the University of Wisconsin to describe, predict, manage, and prevent developmental articulation disorders. Scientists are determining how to predict normal speech following indirect (caregiver-based) and direct (clinician-based) management of speech problems. These findings will have a direct impact on service delivery for preschool children identified as having speech disorders of unknown origin.

As scientists continue to learn more about the underlying causes of speech and language disorders, they will be able to design and develop more appropriate treatment strategies for children with developmental speech and language disorders.

About the NIDCD

The NIDCD conducts and supports research and research training on normal and disordered mechanisms of hearing, balance, smell, taste, voice, speech and language. The NIDCD achieves its mission through a diverse program of research grants for scientists to conduct research at medical centers and universities around the country and through a wide range of research performed in its own laboratories.

The institute also conducts and supports research and research training related to disease prevention and health promotion; addresses special biomedical and behavioral problems associated with people who have communication impairments or disorders; and supports efforts to create devices that substitute for lost and impaired sensory communication function. The NIDCD is committed to understanding how certain diseases or disorders may affect women, men and members of the underrepresented minority populations differently.

The NIDCD has established a national clearinghouse of information and resources. Additional information on developmental speech and language disorders may be obtained from the NIDCD Clearinghouse. Write to:

NIDCD Clearinghouse
P.O. Box 37777
Washington, DC 20013-7777

For additional information:

American Speech-Language-Hearing Association
10801 Rockville Pike
Rockville, MD 20852
(301) 897-5700 voice/TDD
(800) 638-8255 Consumer Helpline

Central Institute for the Deaf (CID)
818 South Euclid Avenue
St. Louis, MO 63110-1594
(314) 652-3200 voice/TDD

The Council for Exceptional Children
Division of Children with Communication Disorders
1920 Association Drive
Reston, VA 22091
(703) 620-3660

National Rehabilitation Information Center (NARIC)
8455 Colesville Road, Suite 935
Silver Spring, MD 20910
(301) 588-9284 voice/TDD
(800) 34-NARIC

Orton Dyslexia Society
724 York Road
Baltimore, MD 21204
(301) 296-0232
(800) ABCD-123

This publication was prepared by:

Program Planning and Health Reports Branch
National Institute on Deafness and
Other Communication Disorders
National Institutes of Health
Bethesda, Maryland 20892
Telephone: (301) 496-7243
TDD: (301) 402-0252

U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES

December 1991